



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

K

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/334,386	06/16/1999	ROBERT A. WIEDEMAN	300P008463-U	5275

7590 07/16/2003

JOYCE E KOSINSKI
LORAL SPACE & COMMUNICATIONS LTD
655 DEEP VALLEY DRIVE
SUITE 303
ROLLING HILLS ESTATES, CA 90274

EXAMINER

JAGANNATHAN, MELANIE

ART UNIT	PAPER NUMBER
----------	--------------

2666

DATE MAILED: 07/16/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/334,386

Applicant(s)

WIEDEMAN ET AL

Examiner

Melanie Jagannathan

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 16 June 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 21-41 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other.

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: in claims 12 and 35, limitation of routing packets comprised of voice data over “semi-permanent paths that are established during the duration of call ” does not have proper antecedent basis in the specification.

Claim Objections

2. Claim 1 is objected to because of the following informalities: on lines 4 and 5, “...at least said plurality of gateways...” is unclear. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

1. Claims 1-7, 10, 15-19, 21-30, 33, 37-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Chao US 6,215,776.

Regarding claims 1, 6, 7, 15-17, 29-30, 37-39, the claimed satellite communication system comprised of a plurality of satellites and a plurality of gateways is anticipated by system (Figure 1, element 10) with plurality of satellites (elements 12, 14, and 16) and plurality of gateways (elements 20, 24 and 32). The claimed terrestrial communications system is disclosed by network (element 26) and the claimed plurality of nodes including source nodes, destination nodes and intermediate nodes is disclosed by terminals (elements 22, 28, 30, 36), satellites and gateways. The claimed multiple copies of a packet coexist within the network and are routed, using at least in part satellite-resident routers and gateway-resident routers, over a plurality of different paths between a particular source and destination node is disclosed by source terminal (Figure 1, element 30) transmitting multiple copies of the same packet (Figure 5, element 70) using gateways and satellites over different paths (Figure 1, elements, 42, 44, 46, 48). The claimed duplicate copy of packet not used during the execution of packet reordering in the destination node or intermediate node is disclosed by destination gateway (Figure 1, element 34) recognizing packets as repeated packets by examination of payload information which includes sequence numbers (Figure 4). See column 5, lines 66-67 and column 6, lines 1-15.

Regarding claims 2, 26, the claimed satellite-to-satellite cross-links are anticipated by paths (Figure 1, element 48).

Regarding claims 3, 26, the claimed satellite-to-gateway uplinks and downlinks are anticipated by paths (Figure 1, elements 42, 44, 46).

Regarding claims 4, 27, the claimed satellite-to-user terminal uplink and downlink is anticipated by paths (Figure 1, elements 42 and 46).

Regarding claims 5, 10, 28, 33, the claimed TCP/IP or equivalent packets are disclosed by communication between terminals following Ipv4 or Ipv6 and containing payload with sequence numbers and session information. See column 3, lines 34-38, column 5, lines 66-67 and column 6, lines 1-15.

Regarding claims 18-19, 21-24, 40-41, the claimed multiple copies generated based on at least one of a plurality of criteria is anticipated by multiple copies made to enhance communication reliability on links with lower quality of service, control satellite (Figure 2, element 54) balancing links based on communication factors and communication stream segmented into packets based on parameter such as priority, hop count and amount of data to be transferred. See column 5, lines 48-58, lines 66-67, column 6, lines 1-15 and lines 32-39.

Regarding claim 25, the claimed multicasting is disclosed by call type being multicast (Figure 7).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 8-9, 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chao.

Chao discloses all the limitations of the claims except for the claimed constellation of low earth orbit and medium earth orbit satellites. At the time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the system of Chao with low earth orbit and medium earth orbit satellites. One of ordinary skill in the art would be motivated to do this since they are more recently developed satellites that are not synchronized with the earth's rotation and vary widely in terms of orbital paths and altitudes.

4. Claim 11-14, 34-36 are rejected under 35 U.S.C. 103(a) as being obvious over Chao in view of Wiedeman et al. US 6,134,423.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter

disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Regarding claims 11,12, 34-35, Chao discloses all the limitations of the claims except for the claimed packets comprising voice data and routing of voice data over semi-permanent paths. Wiedeman et al. discloses packetized voice signals communicating via uplinks and downlinks through return and forward satellite transponders. See Figure 3A. At the time it would have been obvious to a person of ordinary skill in the art to modify system of Chao to have packets comprising voice data and routing over semi-permanent paths. One of ordinary skill in the art would be motivated to do this for proper routing of voice communications through the appropriate satellites.

Regarding claims 13-14, Chao discloses all the limitations of the claims except for vocoded voice data that is generated external to a user terminal and that is input to the user terminal for transmission and vocoded voice data that is generated internal to a user terminal for transmission. Wiedeman et al. discloses a CDMA sub-system (Figure 5, element 52) including a vocoder (element 53k) that is external to the terminal and Wiedeman et al. discloses a user

Art Unit: 2666

terminal (Figure 6, element 13) in a satellite communication system (Figure 1, element 10) comprising a vocoder (element 13c) for digitizing a user's speech. See column 10, lines 49-57. At the time the invention was made it would have been obvious to a person of ordinary skill in the art to modify system of Chao to transmit vocoded voice data generated external and internal to a user terminal. One of ordinary skill in the art would be motivated to do this for digitizing speech from a mobile that is external to the system or for efficiently digitizing voice within the same device.

Regarding claim 36, Chao and Wiedeman et al., in combination, disclose all the limitations of the claims except for packets comprising encrypted voice data.

Therefore, Examiner takes official notice of the concept and advantage of packets comprising encrypted voice data. At the time the invention was made it would have been obvious to a person of ordinary skill in the art to have packets comprising encrypted voice data. One of ordinary skill in the art would be motivated to do this for security purposes.

Allowable Subject Matter

5. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dent US 5,959,984 discloses dual mode satellite/cellular terminal.

Wiedeman et al. US 6,097,752 discloses closed loop power control for low earth orbit satellite communications system.

Wiedeman et al. US 6,067,442 disclose satellite communications system having distributed user assignment and resource assignment with terrestrial gateways.

Leopold et al. US 5,452,471 discloses network of hierarchical communication systems and method.

Gelman et al. US 6,415,329 disclose method and apparatus for improving efficiency of TCP/IP protocol over satellite link.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Jagannathan whose telephone number is 703-305-8078. The examiner can normally be reached on Monday-Friday from 8:00 a.m.-4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 703-308-5463. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9315 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Application Number: 09/334,386


Art Unit: 2666

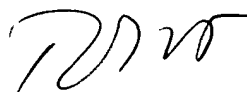
Page 9

Melanie Jagannathan

Patent Examiner

AU 2666

MJ 
July 2, 2003



DANG TON
PRIMARY EXAMINER